

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 03/060227 A2

(51) International Patent Classification⁷: D06M
(21) International Application Number: PCT/US03/00753
(22) International Filing Date: 10 January 2003 (10.01.2003)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data: 60/340,937 10 January 2002 (10.01.2002) US
(71) Applicant (for all designated States except US): GLY-COZYME, INC [US/US]; 17935 Sky Park Circle, Suite E, Irvine, CA 92614-6321 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (for US only): MURRAY, Allen, K. [US/US]; 2330 Lerwick Place, Newport Beach, CA 92660 (US).

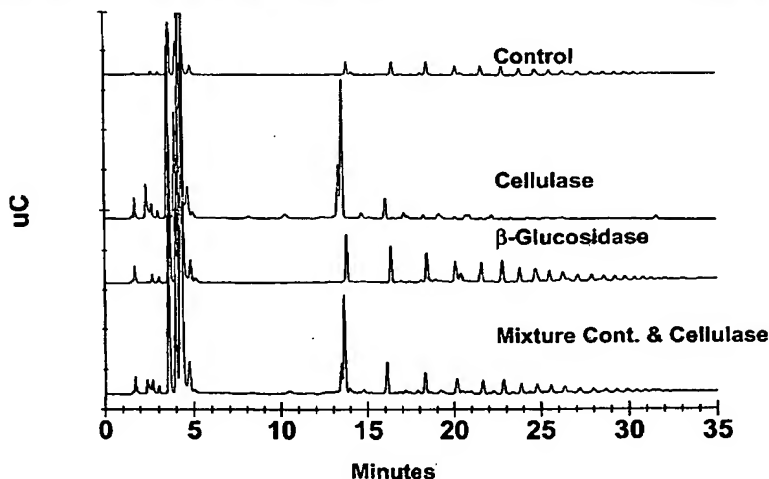
Published:

— without international search report and to be republished upon receipt of that report

(74) Agents: KIRCHANSKI, Stefan, J. et al.; Crosby, Heafey, Roach & May, 1901 Avenue of the Stars, Suite 700, Los Angeles, CA 90067 (US).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ENZYMATIC DEGRADATION OF COTTON FIBRES: EFFECT OF PROTEIN CROSS-LINKING AND THE USE OF DEGRADATION TO CHARACTERIZE FIBERS OF PLANT OF DIFFERENT GENETIC BACKGROUND



(57) Abstract: Specific extraction of the oligomers from cotton fibers can be achieved by a 24-hr incubation at 37°C with trypsin, chymotrypsin, proteinase K or pepsin, followed by a second 24-hr incubation at 37°C with cellulase (*Trichoderma reesei*) or β -glucosidase. Alternatively, samples were first subjected to cellulase or β -glucosidase treatment followed by the protease. The residual material is then treated with 0.5N HCl at 100°C and the extracts analyzed. Fibers treated with cellulase: followed by protease disintegrated and appeared as a cloudy solution, while the fibers treated with protease followed by cellulase retained their structural identity. This analysis reveals striking differences between cotton fibers from different varieties with respect to their susceptibility to enzymatic degradation. This protocol can be used to identify biochemical characteristics, which can then be correlated with genetic markers for advances in plant breeding.

501,577



WO 03/060227 A2